DOCUMENT RESUME

ED 182 883 EC 122 902

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TITLE Let's Go, Cabbagehead: Syntactic and Pragmatics of Learning Disabled Children's Communications.
INSTITUTION Illinois Univ., Chicago. Coll. of Education.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE Sep 79
CONTRACT 300-77-0493
NOTE 14p.; Paper presented at the Annual Conference of the American Psychological Association (New York, NY, September, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Communication (Thought Transfer); Elementary Education; Exceptional Child Research; Learning Characteristics; *Learning Disabilities; *Listening Skills; Pragmatics; Syntax

ABSTRACT

The study assessed responses of elementary grade learning disabled children to ambiguous information from a speaker. It was hypothesized that Ss would be passive listeners, and that they would function less effectively in a situation in which speaker inadequacy necessitated active listener responses. Results supported the hypothesis that learning disabled children would differ from nondisabled children in requesting clarification from a speaker when the speaker's message was inadequate. Learning disabled Ss were less likely to ask for feedback when given uninformative or partially informative information. Findings led to conclusions such as the following: learning disabled children are not good listeners; learning disabled children may not recognize that adults may give uninformative information; and learning disabled children may be less experienced in asking questions. (SBH)

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LET'S GO, CABBAGEHEAD: SYNTACTIC AND PRAGMATICS OF LEARNING DISABLED CHILDREN'S COMMUNICATIONS

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Paper presented to the conference of the American Psychological Association, New York, September, 1979.

Preparation of this paper was supported by a research contract from the Bureau of Education for the Handicapped, Office of Education (US HEW OE 300 770 493) for the University of Illinois' Chicago Institute for Learning Disabilities

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Introduction

The definition of learning disabilities used in 1969 and 1975 federal legislation is:

> "Children with special learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage" (Federal Register, 1976).

The definition of learning disabilities is heavily weighted with terms referring to disorders of language. Comprehension, talking, reading, writing, thinking are all language processes. While the definition emphasizes that this population of children has language disorders, there is a paucity of data concerning the incidence, types and severity of language problems among learning disabled children, and there is little known of the relationship between language skills and the acquisition of academic and social skills. In this paper we are concerned with learning disabled children's use of language structure and pragmatics in social contexts. This interest stems from considerable data which finds learning disabled children are rejected by peers, teachers, parents and even strangers (Bryan and Bryan, in press). The hypothesis of the reported studies is that rejection of learning disabled children may be related to their inability to effectively communicate in social interactions.

Summary of preceding research. A number of studies have focused on learning disabled children's syntactic and pragmatic skills in social interactions. In one study, Bryan and Pflaum (1978) analyzed the syntactic complexity and communicative content of learning disabled and nondisabled children who taught a game to a same aged and a younger child. It was found that learning disabled children used less complex syntactic structures. However, only learning disabled males failed to alter the complexity of their communications in response to differences in audience age. With respect to communication content, learning disabled males and females were more likely than nondisabled children to emit incompetent communications; messages which were incomplete, incorrect, or weird.

A number of classroom observational studies also found differences in communication patterns between learning disabled and nondisabled children. Bryan and Wheeler (1972) found that peers were twice as likely to ignore the social initiations of learning disabled children than classmates; Bryan and Bryan (Note 1) found learning disabled children, in contrast to their nondisabled classmates, more frequently emitted very nasty statements, were the recipients of more rejection statements, and were less likely to respond to peers. Similarly, Bryan, Wheeler, Felcan and Henek (1976) found learning disabled children to emit more competitive statements, say fewer helpful and fewer positive reinforcement statements than nondisabled peers.

In sum, it appears than learning disabled children elicit negative judgments from peers on sociometric measures, and engage in and elicit more hostile and fewer positive communications from peers. The study now described is the first of a series in which learning disabled children's ability to function effectively as a listener and speaker in varying contexts is being examined.

Listener skills. In this study learning disabled children's responses to ambiguous information from a speaker was assessed. This study was based on

research finding that young children in referential communication tasks are passive listeners who fail to provide feedback or ask questions of their partners. Since learning disabled children have been described as passive learners (Torgesen, 1977) it was hypothesized that they would be passive listeners, and that they would function less effectively in a situation in which speaker inadequacy necessitated active listener responses.

Subjects. Subjects, drawn from three parochial schools, were defined as learning disabled or nondisabled on the basis of teacher ratings, school reading achievement test scores, the short form of the Woodcock-Johnson Psycho-Educational test battery, and the Peabody Picture Vocabulary Test (PPVT) scores. Teachers rated each child on a 5 point scale in which lower scores indicated the child had difficulty in either reading, attending, or communicating. Children who had teacher ratings of 1 or 2, SRA Achievement scores below the 4th stanine, and PPVT scores above 90 were the learning disabled subjects. The reading battery from the Woodcock-Johnson Psycho-Educational test battery was administered to these children. Since one parochial school did not administer achievement tests, Woodcock-Johnson reading scores below the 40th percentile were used to classify subjects for whom school achievement test scores were unavailable. There were 63 learning disabled subjects; their mean reading test grade percentiles on the Woodcock-Johnson was 22.44; their mean PPVT was 108.

Control subjects, randomly selected from classmates who matched the learning disabled on school, grade and sex, had received teacher ratings above 3, achievement test scores above the 4th stanine, or Woodcock-Johnson reading scores above the 40th percentile, and PPVT scores above 90. There were 56 children who served as control subjects; their mean reading grade percentile was 65.85, and the mean PPVT score was 115.

Method. Children were individually tested in a laboratory trailer parked on school grounds. The child, seated at a table across from the experimenter,

was given four pictures which varied in binary features. For example, one set depicts seals holding different toys on their noses, sitting on a box or not, having or not having a hoop around their necks. One child was told the experimenter had a picture which matched one of the four held by the child, and that the child was to select which one of their pictures matched the experimenter's on the basis of clues provided by the experimenter. It was emphasized that children could ask questions to obtain more information, but could not look at the experimenter's picture.

The experimenter messages differed on levels of informational adequacy. Clues, on two trials, were fully informative as they allowed the child to eliminate three of the four pictures. Clues on two trials were partially informative, allowing the child to eliminate two of the four pictures. On two trials, messages were uninformative, as they did not provide information which would eliminate any of the pictures.

To determine whether group differences might reflect perceptual problems, children were given an appraisal task in which the experimenter showed the child a single picture, gave a message, and asked the child to indicate whether an imaginary listener who heard that message would be able to select that picture. Finally, children were asked whether they were able to ask questions during the session. All but two children indicated that they were allowed to ask questions.

Sessions were videotaped for later analysis.

Results. The experimental design was a 2 (learning disabled, nondisabled) x 2 (sex) x 4 (grades 1+2, 3+4, 5+6, 7+8) x 3 message types (informative, partially informative and uninformative). Analyses of variance were computed for the dependent variables: number of correct picture choices, the amount of feedback requested, latency of requests for feedback, and the number of correct choices on the appraisal task.

On the number of correct responses, there were main effects for grade, type of message and group. Children made more correct choices as they aged ($\bar{X}$ = 2.10 for 1+2 grade, 2.63 for 3+4 grade, 3.07 for 5+6 grade, and 3.63 for 7+8 grade; $p < .000$). Children were more likely to make the correct choice when the message was informative ($\bar{X}$ = 3.69) in comparison to uninformative ($\bar{X}$ = 2.47) or partially informative ($\bar{X}$ = 2.21, $p < .000$). The learning disabled children made significantly fewer correct choices ($\bar{X}$ = 2.52) than the nondisabled group ($\bar{X}$ = 3.10, $p < .03$). There was an interaction for type of message by group. Duncan Multiple Range tests indicated that learning disabled and nondisabled children did not differ in the number of correct responses when provided informative messages ($\bar{X}$ = 3.58, $\bar{X}$ = 3.82 respectively), but there were significant group differences when the message was uninformative ($\bar{X}$ = 2.04, $\bar{X}$ = 2.96 respectively) and partially informative ($\bar{X}$ = 1.95, $\bar{X}$ = 2.51 respectively). Hence, learning disabled children made more errors in picture choice when the messages were inadequate, but did not differ when messages were fully informative.

With respect to the amount of feedback requested by subjects, there were significant main effects for grade, group, type of message, and interactions of message type by group and message type by grade. The main effects indicated that children asked more questions as they grew older ($\bar{X}$ = .57 for 1+2, 1.34 for 3+4, 1.86 for 5+6, 2.47 for 7+8, $p < .000$). Subjects asked more questions when the message was uninformative ($\bar{X}$ = 2.32) than when it was partially informative ($\bar{X}$ = 1.89) or informative ($\bar{X}$ = .27, $p < .000$). The interactions of grade by message and group by message resulted from no age or group differences in the fully informative message condition. Duncan Multiple Range tests indicated that learning disabled children asked fewer questions in the uninformative condition ($\bar{X}$ = 1.79) than nondisabled subjects ($\bar{X}$ = 2.92), and asked fewer questions in the partially informative condition ($\bar{X}$ = 1.47) than nondisabled children ($\bar{X}$ = 2.36, $p < .004$).

Listeners' latency of response was measured from the end of the experimenter's message until the child responded either by asking a question or making a choice. There were main effects for grade, message type, and an interaction of message type by group. With respect to grade, younger children took longer to respond than older children ($\bar{X}$ = 4.25 for 1+2, 3.74 for 3+4, 3.30 for 5+6, 3.58 for 7+8, $p < .01$). On message type, there were longer latencies for the uninformative ($\bar{X}$ = 4.43) than for the partially informative ($\bar{X}$ = 4.31) or fully informative messages ($\bar{X}$ = 2.31). The message type by group interaction indicates that learning disabled children had longer latencies in the uninformative ($\bar{X}$ = 4.77) than the partially informative ($\bar{X}$ = 4.12) or informative conditions ($\bar{X}$ = 2.32). The nondisabled children had the longest latency in the partially informative ($\bar{X}$ = 4.52) message, followed by uninformative ($\bar{X}$ = 4.04) and informative ($\bar{X}$ = 2.30) messages. The Duncan Multiple Range Test indicated that the latencies of the learning disabled children were significantly different for each message type; the latencies of the control children were significantly different for each message type, but the learning disabled and nondisabled latencies did not vary from each other across message types.

On the appraisal task, there were main effects for grade, and a grade by message interaction. The interaction indicated that only 1+2 grade children had difficulty judging the adequacy of a picture clue. By 3+4 grades, all subjects were making correct judgments of message adequacy on more than 75% of the uninformative and partially informative trials.

Discussion. These results supported the hypothesis that learning disabled children would differ from nondisabled children in requesting clarification from a speaker when the speaker's message was inadequate. They were less likely to ask for feedback when given uninformative or partially informative information. Furthermore, they made more errors in picture choice in the ambiguous message trials. The group differences in amount of feedback requested and number

of correct choices, support the notion that learning disabled children may be passive listeners. Interestingly, these data do not support some popular ideas about learning disabilities.

First, while learning disabled children are frequently characterized as impulsive and inattentive, the latency measures indicate that they were not impulsive nor inattentive. While nondisabled children had longer response latencies on partially informative messages, learning disabled children took longer to respond to uninformative messages. The learning disabled cannot be described, on this task, as impulsive responders.

Failure to find group differences on the appraisal task indicates that group differences do not result from auditory or visual perceptual problems. It was important to rule out this explanation as perceptual difficulties have been a popular explanation for learning disabilities.

The results do support the hypothesis that learning disabled children are not good listeners; they failed to ask questions when provided inadequate information, and made more errors in choosing pictures than others. There are a number of possible explanations for these findings. First, learning disabled children have recently been described as inactive learners (Torgesen, 1977). Their failure to ask questions, and the increased number of errors, may reflect a passivity in a learning situation. They may not have been sufficiently motivated to ask questions, preferring to make any choice, whether right or wrong, to terminate the session.

Another possibility is that these children have the set that adults give correct messages to children. The learning disabled children may not recognize that adults may give uninformative information. The learning disabled child may not be able to take the role of the adult. In this situation the child has to recognize that the speaker cannot identify all the distinctive features of the

four pictures viewed by the child. If the child assumes that the adult has the information he has, inability to locate the correct picture would be the child's, and not the speaker's, fault. This explanation stems from research on children's role-taking ability in which it is posited that children must be able to discount their own knowledge of events and adopt the role of a less well informed other.

A third possible explanation is that these children become "learned helpless". Recent attribution research (Dweck and Reppucci, 1973) suggested that children who attribute task failure to lack of ability fail to persist in a task after they experience failure. Attribution data based on these subjects (Pearl, Bryan, Donahue, Note 2) are suggestive that they might well become learned helpless, and give up when a task becomes difficult.

Finally, it is possible that learning disabled children are less experienced at asking questions. In the classroom it is typically the case that teachers ask questions and children answer them. When children ask questions, it may be that it is the more academically successful children who are more likely to do so.

In sum, learning disabled children were discriminated from nondisabled children on listener responses to inadequate messages. The results support the hypothesis that learning disabled children are less skilled at their use of language in a social context, that the ability to effectively communicate with others is a particular problem for many learning disabled children.

The results can not be easily explained as function of language skills per se; that is, auditory comprehension was not the source of group differences. In addition, very primitive syntactic structures would have sufficed for asking questions. "Whadda ya mean?", "I don't get it" would be tallied as requests for clarification. It appears, then, that the ability to function as an effective listener is related in as yet unknown ways with the child's attributions

concerning himself, the speaker and/or the task. Experience formulating questions, role playing skills, learned helplessness, and motivation may affect the child's ability to perform as an effective listener in a dyadic interview.

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